

REMARKS

By this amendment, claims 1-21 are pending, in which the Specification is amended to update the cross-reference information to co-pending patent applications.

The Applicants' representative wishes to thank Patent Examiner Gyorfi and Supervisory Patent Examiner Vu for courtesy of personal interview extended on March 30, 2005. During the interview, it was agreed that the rejection be reconsidered for the following reasons.

The final Office Action mailed December 15, 2004 rejected claims 1-21 as obvious under 35 U.S.C. § 103 based on *Liu* (US 6,079,020) in view of *Tabata* (US 2001/0016914). This rejection is respectfully traversed because *Liu* and *Tabata*, individually or in combination, fail to teach the features of the claims.

For example, independent claim 9 recites:

one or more egress boundary routers having connections to the access network, wherein said one or more egress boundary routers transmit intra-VPN traffic toward **the destination host** via the first logical connection and transmit extra-VPN traffic toward **the destination host** via the second logical connection; and

This feature is not shown in *Liu* and *Tabata*. For example, *Liu* is directed to a method and apparatus for managing a virtual private network over a public data network (Abstract). Referring to FIG. 3 and accompanying text on col. 8:11-39, an inbound packet is received from the Internet (step **310**) and the source and the destination addresses are checked to determine if they belong to the same VPN group (step **320**). If they do not belong to the same VPN group, then "the packet is forwarded to the receiving site as though it were normal Internet data traffic at state **330**" (col. 8:22-25). On the other hand, if they do belong to the same VPN group, then the packet is reconstituted (as by decryption, etc., in step **340**) and "the reconstructed packet will be delivered to the site of the destination address at state **360**" (col. 8:37-39).

Liu does not provide any details, however, how either the received packet or the reconstructed packet is transmitted to the site of the destination address, much less whether “one or more egress boundary routers transmit **intra-VPN traffic** toward the destination host **via the first logical connection** and transmit **extra-VPN traffic** toward the destination host **via the second logical connection**” as recited in independent claim 9. In fact, *Liu* merely describes the differential treatment of incoming traffic in terms of manipulating packets, not in terms of using logical connections. As a result, the Office Action is correct to recognize on p. 7 that “*Liu* does not disclose” the recited one or more egress boundary routers.

Tabata also does not disclose the recited one or more egress boundary routers. Rather, *Tabata* is mainly concerned with transmitting packets between separate edge nodes 2, with almost no discussion of how packets are transmitted from edge node 2 to end user 1. In fact, what little discussion *Tabata* has about this aspect teaches against the features recited in claim 9.

More specifically, *Tabata* describes an IP virtual private network in which an edge node “receives an IP packet transmitted from a user [and] adds thereto information including an external IP header and an IP virtual private network identifier” (Abstract). *Tabata* further discloses that the “edge node is assigned a plurality of different IP addresses in accordance with quality (required bandwidth) of an in-network packet” (Abstract). This processing of packets occurs strictly between edge nodes, however. For example, ¶ 0054 of *Tabata* states (*emphasis added*):

As described above, the ingress edge node receives a packet from end user 1 to transfer it to backbone network 3 after it adds in-network additional information thereto, while the egress edge node receives an in-network packet from backbone network 3 to transfer it to end user 3 *after it deletes in-network additional information therefrom*. FIG. 5 shows a configuration for realizing both functions of the ingress edge node and egress edge node.

Thus, *Tabata* not only fails to disclose that its egress edge nodes “transmit **intra-VPN traffic** toward the destination host **via the first logical connection** and transmit **extra-VPN traffic** toward the destination host **via the second logical connection**” as recited in claim 9 but *Tabata* discloses that the additional information is deleted, making any differential treatment of traffic from the egress edge node more difficult, if not impossible.

The portions of *Tabata* cited in the Office Action, p. 8, with regard to independent claim 9 do not support the rejection. For example, though ¶ 46 discloses “an egress edge node (not shown) for receiving in-network packets from backbone network 3 to transfer them to end users 1,” this paragraph provides no details about doing so via first and second logical connections. Paragraph 69 discusses “ingress transfer control information” and therefore lacks relevance to the claimed feature, and ¶ 89’s discussion of transferring “in-network packets to switch 63 in order of precedence class” also fails to be relevant to the claimed “egress boundary routers.”

The Office Action’s response to arguments also do not support the rejection. For example, the contention that “Liu teach that there is a clear distinction to be made between intra-VPN and extra-VPN traffic (col. 7, lines 30-40)” is only pertinent for “an outbound data packet” (col. 7:20-21) that is “forwarded to the Internet (7:33), not “toward the destination host” as recited in claim 9. Furthermore, the assertion that “[i]t is also well known in the art and implicitly understood that IP-enabled devices are able to send traffic among multiple separate logical ports, which can be construed to be logical connections under the broadest definition of the term” lacks a factual basis in the record. The Administrative Procedures Act requires the Patent Office to articulate and place on the record the “common knowledge” used to negate patentability. *In re Sang Su Lee*, No. 00-1158 (Fed. Cir., Jan. 18, 2002); *In re Zurko*, No. 96-1285 (Fed. Cir., Aug. 2, 2001). Even if a reference disclosing what is asserted to be well-known

could be found, the record must still contain some suggestion to motivate a person of skill to modify *Liu* or *Tabata* in the specific manner as recited in claim 9, but this would be hard to do. *Liu* deals with merely reconstructing packets belonging to the same VPN group in incoming traffic, and *Tabata* junks any in-network additional information at the egress node.

Originally presented independent claim 16 is patentable over *Liu* and *Tabata*, because neither reference teaches or otherwise suggests the recited feature of “transmitting intra-VPN traffic **from said one or more egress boundary routers toward the destination host** via the first logical connection, and transmitting extra-VPN traffic from said one or more egress boundary routers **toward the destination** host via the second logical connection.” As evident from the above discussion, neither *Liu* nor *Tabata* is particularly concerned about the transmission details between from an egress boundary router toward a destination host.

Independent claim 21 recites “transmitting the intra-VPN traffic from one or more egress boundary routers toward the destination host via a first logical connection, and transmitting extra-VPN traffic from said one or more egress boundary routers toward the destination host via a second logical connection.” For the foregoing reasons, neither *Liu* nor *Tabata* teaches or otherwise suggests this feature.

Independent claim 1 also recites a feature both *Liu* and *Tabata* lack: “one or more egress boundary routers having connections to an access network including the access link, wherein said one or more egress boundary routers transmit intra-VPN traffic **toward the destination host** from sources within the VPN and extra-VPN traffic **toward the destination host** from sources outside the VPN within separate access network logical connections for intra-VPN and extra-VPN traffic, respectively.”

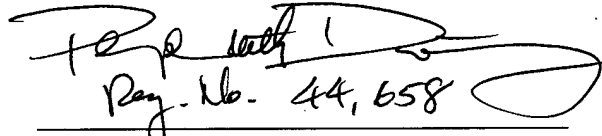
Dependent claims 2-8, 10-15, and 17-20 are allowable for at least the same reasons as their independent claims and are separately patentable on their merits. Thus, all claims are allowable over the applied art of record.

Therefore, the present application, as amended, overcomes the rejections of record and is in condition for allowance. Favorable consideration is respectfully requested. If any unresolved issues remain, it is respectfully requested that the Examiner telephone the undersigned attorney at 703-425-8516 so that such issues may be resolved as expeditiously as possible.

Respectfully Submitted,

DITTHAVONG & CARLSON, P.C.

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Date


Reg. No. 44,658

Stephen C. Carlson
Attorney/Agent for Applicant(s)
Reg. No. 39929

10507 Braddock Road
Suite A
Fairfax, VA 22032
Tel. 703-425-8516
Fax. 703-425-8518